```
=> fil reg
FILE 'REGISTRY' ENTERED AT 07:37:39 ON 01 APR 2009
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provided by InfoChem.

STRUCTURE FILE UPDATES:   30 MAR 2009  HIGHEST RN 1129871-47-1
DICTIONARY FILE UPDATES:  30 MAR 2009  HIGHEST RN 1129871-47-1

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TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> d l20 ide can tot

L20  ANSWER 1 OF 5  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   773889-61-5  REGISTRY
ED   Entered STN:  02 Nov 2004
CN   Benzamide, N,N'-1,4-phenylenebis[3,5-diamino-  (CA INDEX NAME)
MF   C20 H20 N6 O2
SR   CA
LC   STN Files:   CA, CAPLUS, CASREACT
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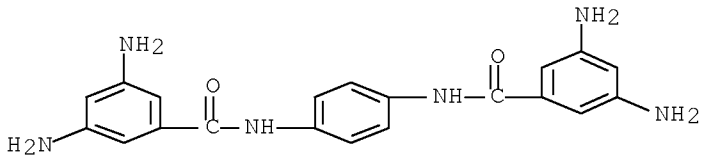


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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

               2 REFERENCES IN FILE CA (1907 TO DATE)
               2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE   1:  146:462594

REFERENCE   2:  141:332962

L20  ANSWER 2 OF 5  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   773889-59-1  REGISTRY
ED   Entered STN:  02 Nov 2004
CN   Benzamide, N,N'-(oxydi-4,1-phenylene)bis[3,5-diamino- (9CI)  (CA INDEX
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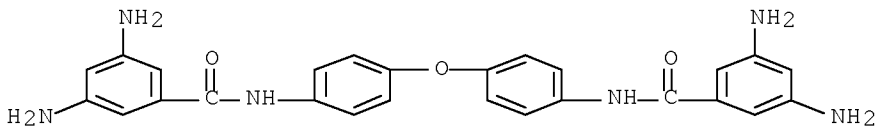
NAME)
MF C26 H24 N6 O3
CI COM
SR CA
LC STN Files: CA, CAPLUS

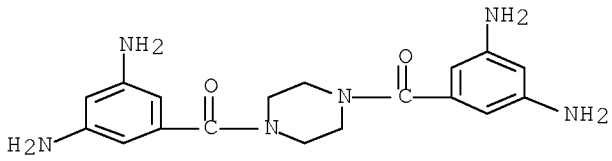


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:332962

L20 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2009 ACS on STN
RN 773889-55-7 REGISTRY
ED Entered STN: 02 Nov 2004
CN Methanone, 1,1'-(1,4-piperazinediyl)bis[1-(3,5-diaminophenyl)- (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Piperazine, 1,4-bis(3,5-diaminobenzoyl)- (9CI)
MF C18 H22 N6 O2
CI COM
SR CA
LC STN Files: CA, CAPLUS



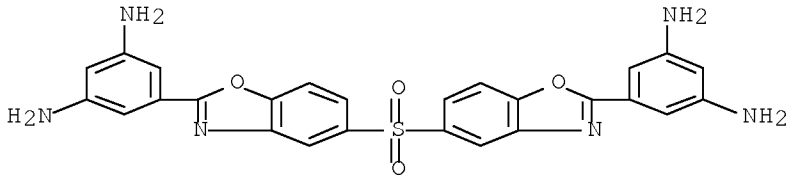
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:332962

L20 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2009 ACS on STN
RN 518992-19-3 REGISTRY
ED Entered STN: 22 May 2003
CN 1,3-Benzenediamine, 5,5'-(sulfonyldi-5,2-benzoxazolediyl)bis- (9CI) (CA INDEX NAME)
MF C26 H20 N6 O4 S
CI COM
SR Chemical Library

Supplier: Ambinter
LC STN Files: CA, CAPLUS, CHEMCATS

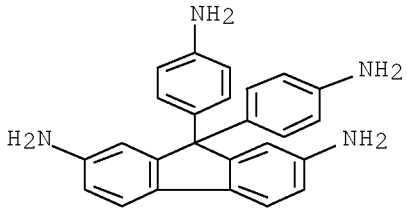


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:332962

L20 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2009 ACS on STN
RN 176258-99-4 REGISTRY
ED Entered STN: 15 May 1996
CN 9H-Fluorene-2,7-diamine, 9,9-bis(4-aminophenyl)- (CA INDEX NAME)
OTHER NAMES:
CN 2,7-Diamino-9,9-bis(4-aminophenyl)fluorene
MF C25 H22 N4
CI COM
SR CA
LC STN Files: CA, CAPLUS, CASREACT



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

8 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
8 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:332962

REFERENCE 2: 139:181414

REFERENCE 3: 134:179710

REFERENCE 4: 134:179368

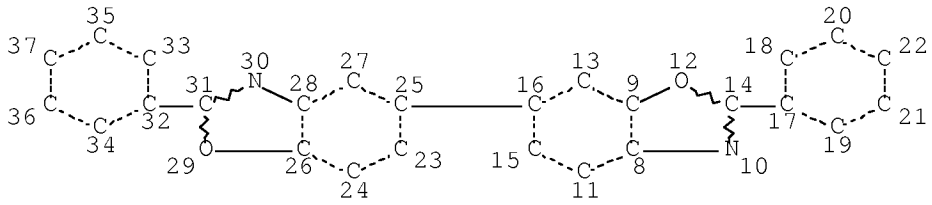
REFERENCE 5: 131:102606

REFERENCE 6: 130:125670

REFERENCE 7: 126:277826

REFERENCE 8: 124:316706

=> d sta que l24
L22 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS UNLIMITED

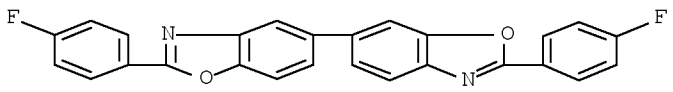
GRAPH ATTRIBUTES:
RSPEC 15 25 17 32
NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE
L24 1 SEA FILE=REGISTRY SSS FUL L22

100.0% PROCESSED 98 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

=> d ide can l24

L24 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
RN 168914-99-6 REGISTRY
ED Entered STN: 13 Oct 1995
CN 5,6'-Bibenzoxazole, 2,2'-bis(4-fluorophenyl)- (CA INDEX NAME)
MF C26 H14 F2 N2 O2
SR CA
LC STN Files: CA, CAPLUS



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 123:229141

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 07:37:57 ON 01 APR 2009
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 1 Apr 2009 VOL 150 ISS 14
FILE LAST UPDATED: 31 Mar 2009 (20090331/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l34 bib abs hitstr tot

L34 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2008:1534289 HCAPLUS Full-text
DN 150:57016
TI Manufacture of 6,6-polyimide copolymer soluble in solvent
IN Itatani, Hiroshi
PA Solpit Industries, Ltd., Japan; Sojitz Corporation
SO PCT Int. Appl., 35pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

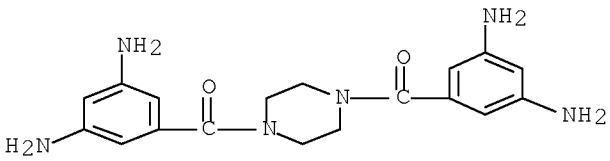
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2008155811	A1	20081224	WO 2007-JP62247	20070618

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,

BY, KG, KZ, MD, RU, TJ, TM
PRAI WO 2007-JP62247 20070618
AB The polyimide is synthesized from 6,6-imide segment which is an imide oligomer having pyromellitic dianhydride (PMDA) at both ends produced by adding 4 molar equiv of PMDA and 2 molar equiv of diaminotoluene (DAT) to an imide oligomer produced by heating 1 molar equiv of biphenyltetracarboxylic dianhydride (BPDA) and 2 molar equiv of diaminodiphenyl ether (DADE) to 160 to 200° in an organic polar solvent in the presence of a catalyst.
IT 1093221-10-3P 1093221-11-4P 1093221-12-5P
1093221-13-6P
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(manufacture of 6,6-polyimide copolymer soluble in solvent)
RN 1093221-10-3 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, 1,4-bis(3,5-diaminobenzoyl)piperazine and ar-methyl-1,3-benzenediamine, block (CA INDEX NAME)

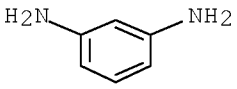
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



CM 2

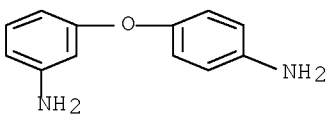
CRN 26764-44-3
CMF C7 H10 N2
CCI IDS



D1—Me

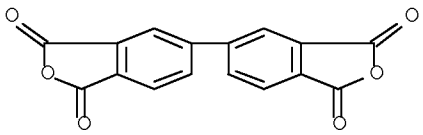
CM 3

CRN 2657-87-6
CMF C12 H12 N2 O



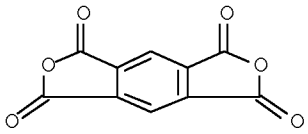
CM 4

CRN 2420-87-3
CMF C16 H6 O6



CM 5

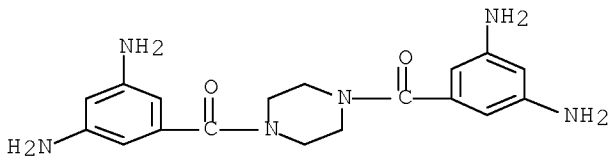
CRN 89-32-7
CMF C10 H2 O6



RN 1093221-11-4 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, ar-methyl-1,3-benzenediamine and 1,1'-(1,4-piperazinediyl)bis[1-(3,5-diaminophenyl)methanone], block (CA INDEX NAME)

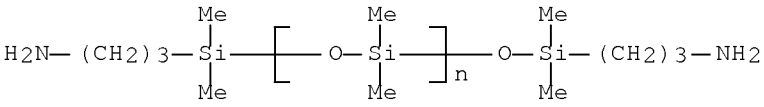
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



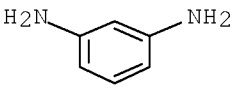
CM 2

CRN 97917-34-5
CMF (C2 H6 O Si)n C10 H28 N2 O Si2
CCI PMS



CM 3

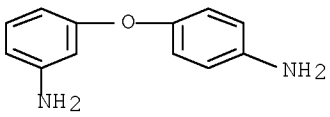
CRN 26764-44-3
CMF C7 H10 N2
CCI IDS



D1—Me

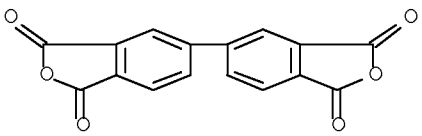
CM 4

CRN 2657-87-6
CMF C12 H12 N2 O



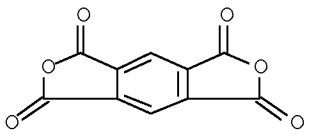
CM 5

CRN 2420-87-3
CMF C16 H6 O6



CM 6

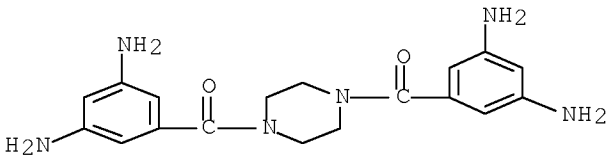
CRN 89-32-7
CMF C10 H2 O6



RN 1093221-12-5 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with α-[(3-aminopropyl)dimethylsilyl]-ω-[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, 1,4-bis(3,5-diaminobenzoyl)piperazine and ar-methyl-1,3-benzenediamine, block (CA INDEX NAME)

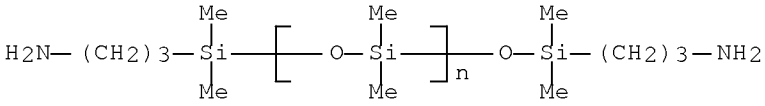
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



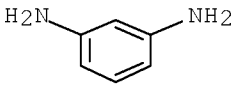
CM 2

CRN 97917-34-5
CMF (C2 H6 O Si)n C10 H28 N2 O Si2
CCI PMS



CM 3

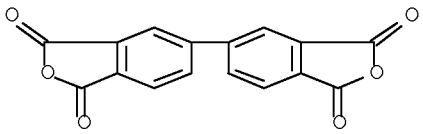
CRN 26764-44-3
CMF C7 H10 N2
CCI IDS



D1—Me

CM 4

CRN 2420-87-3
CMF C16 H6 O6



CM 5

CRN 89-32-7
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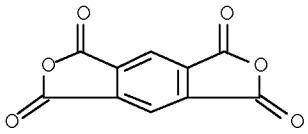
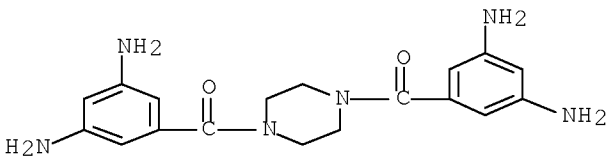


RN 1093221-13-6 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, 1,4-bis(3,5-diaminobenzoyl)piperazine, ar-methyl-1,3-benzenediamine and 3,3'-[1,4-phenylenebis(oxy)]bis[benzenamine], block (CA INDEX NAME)

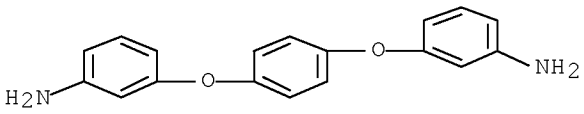
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



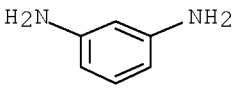
CM 2

CRN 59326-56-6
CMF C18 H16 N2 O2



CM 3

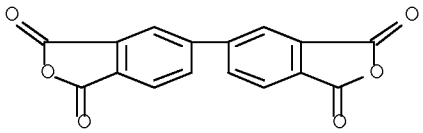
CRN 26764-44-3
CMF C7 H10 N2
CCI IDS



D1—Me

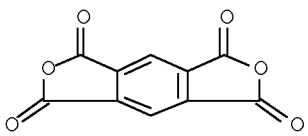
CM 4

CRN 2420-87-3
CMF C16 H6 O6



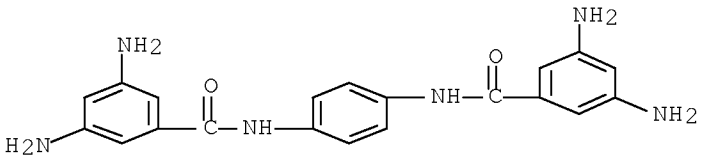
CM 5

CRN 89-32-7
CMF C10 H2 O6



RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2007:240212 HCAPLUS Full-text
DN 146:462594
TI Facile Synthesis of Amine-Terminated Aromatic Polyamide Dendrimers via a Divergent Method
AU Washio, Isao; Shibasaki, Yuji; Ueda, Mitsuru
CS Department of Organic and Polymeric Materials, Graduate School of Science and Engineering, Tokyo Institute of Technology, 2-12-1-H120 O-okayama, Meguro-ku, Tokyo, 152-8552, Japan
SO Organic Letters (2007), 9(7), 1363-1366
CODEN: ORLEF7; ISSN: 1523-7060
PB American Chemical Society
DT Journal
LA English
OS CASREACT 146:462594
AB A novel, rapid, inexpensive, and highly efficient divergent approach for the synthesis of a 32-amine-terminated G4 polyamide dendrimer has been developed. Each generation dendrimer was successfully obtained by the condensation of the preceding generation dendrimer with the building block and the deprotection with hydrazine in one pot. All the dendrimers were easily purified by precipitation in alkaline water, and the purity was confirmed by NMR, MALDI-TOF mass spectra, and elemental anal.
IT 773889-61-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(facile synthesis of amine-terminated aromatic polyamide dendrimers via divergent method)
RN 773889-61-5 HCAPLUS
CN Benzamide, N,N'-1,4-phenylenebis[3,5-diamino- (CA INDEX NAME)



RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2004:847588 HCAPLUS Full-text
DN 141:332962
TI Crosslinked polyimides, compositions containing them and method for their manufacture
IN Itatani, Hiroshi
PA Pi R & D Co. Ltd., Japan
SO PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI WO 2004087793 A1 20041014 WO 2004-JP4305 20040326 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1614704 A1 20060111 EP 2004-723799 20040326 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK
US 20070106056 A1 20070510 US 2005-550887 20050228 <--
PRAI JP 2003-90546 A 20030328 <--
JP 2003-112425 A 20030417 <--
JP 2003-412832 A 20031211 <--
WO 2004-JP4305 W 20040326 <--

AB The crosslinked polyamides are produced by the polycondensation of a tetraamine, a tetracarboxylic acid dianhydride and an aromatic diamine in the presence of a catalyst. The crosslinked polyamides exhibit a dielec. constant of ≤2.7 while compns. containing polyimides have inherent good heat resistance, elec. insulation and chemical resistance, and are useful for elec. and electronic device manufacture Thus, polycondensing bis(3,5-diaminobenzoyl)-1,4-piperazine with biphenyltetracarboxylic dianhydride and 4,4'-diaminodiphenyl ether using oxalic acid and pyridine 2 component catalyst in N-methyl-2-pyrrolidone then coupling with 3,3',4,4'-diphenyl ether tetracarboxylic dianhydride and 1,3-bis(4-aminophenyl)benzene gave a crosslinked polyimide having the claimed properties.

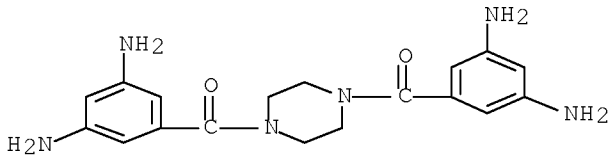
IT 773889-56-8P 773889-57-9P 773889-58-0P
773889-62-6P 773889-63-7P 773889-64-8P
773889-65-9P 773889-66-0P 773889-67-1P
773889-68-2P 773889-69-3P 773889-70-6P
773889-71-7P 773889-72-8P 773889-73-9P
773889-75-1P 773889-76-2P 773889-77-3P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinked polyimides with low dielec. constant, compns. containing them and method for their manufacture and use)

RN 773889-56-8 HCAPLUS

CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 1,4-bis(3,5-diaminobenzoyl)piperazine, 4,4'-oxybis[benzenamine], 5,5'-oxybis[1,3-isobenzofurandione] and 4,4'-[1,3-phenylenebis(oxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

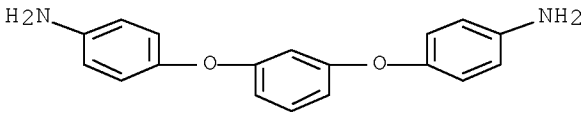
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



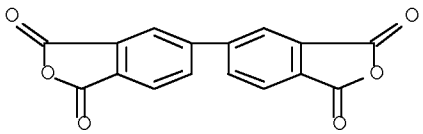
CM 2

CRN 2479-46-1
CMF C18 H16 N2 O2



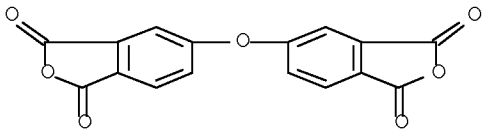
CM 3

CRN 2420-87-3
CMF C16 H6 O6



CM 4

CRN 1823-59-2
CMF C16 H6 O7



CM 5

CRN 101-80-4
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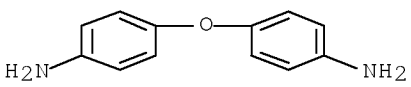
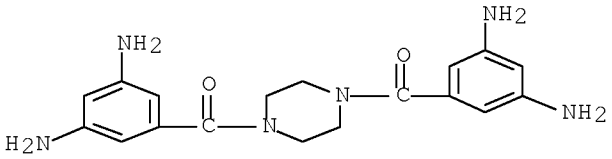


RN 773889-57-9 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 1,4-bis(3,5-diaminobenzoyl)piperazine, 4,4'-(9H-fluoren-9-ylidene)bis[benzenamine], 5,5'-oxybis[1,3-isobenzofurandione] and 3,3'-sulfonylbis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



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CRN 15499-84-0
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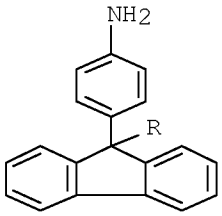
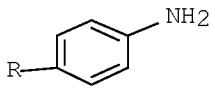
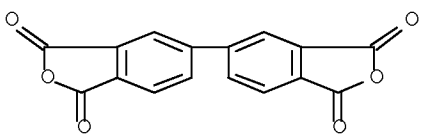




CM 3

CRN 2420-87-3
CMF C16 H6 O6



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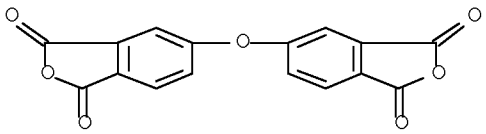
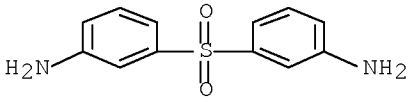
CRN 1823-59-2
CMF C16 H6 O7



CM 5

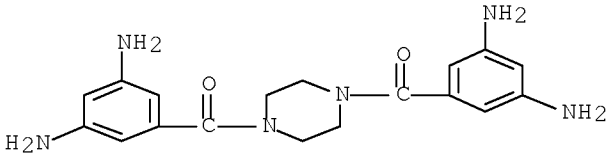
CRN 599-61-1
CMF C12 H12 N2 O2 S



RN 773889-58-0 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, α-[(3-aminopropyl)dimethylsilyl]-ω-[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 1,4-bis(3,5-diaminobenzoyl)piperazine (9CI) (CA INDEX NAME)

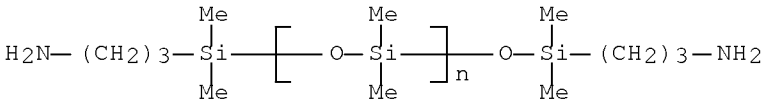
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



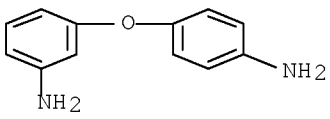
CM 2

CRN 97917-34-5
CMF (C2 H6 O Si)n C10 H28 N2 O Si2
CCI PMS



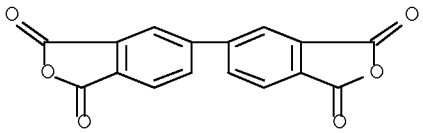
CM 3

CRN 2657-87-6
CMF C12 H12 N2 O



CM 4

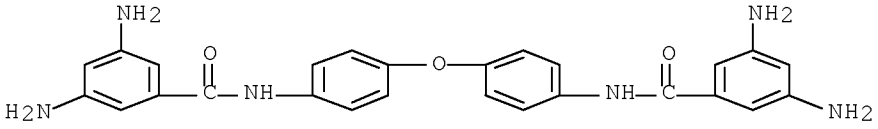
CRN 2420-87-3
CMF C16 H6 O6



RN 773889-62-6 HCAPLUS
CN Benzamide, N,N'-(oxydi-4,1-phenylene)bis[3,5-diamino-, polymer with 3-(4-aminophenoxy)benzenamine, [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, 5,5'-oxybis[1,3-isobenzofurandione] and 4,4'-[1,3-phenylenebis(oxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

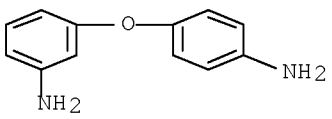
CRN 773889-59-1
CMF C26 H24 N6 O3



CM 2

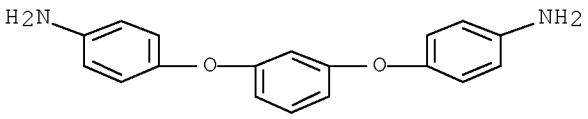
CRN 2657-87-6

CMF C12 H12 N2 O



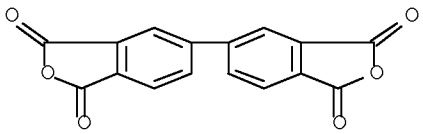
CM 3

CRN 2479-46-1
CMF C18 H16 N2 O2



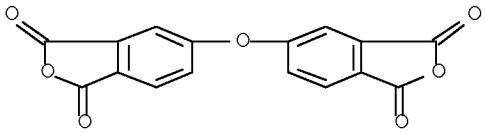
CM 4

CRN 2420-87-3
CMF C16 H6 O6



CM 5

CRN 1823-59-2
CMF C16 H6 O7

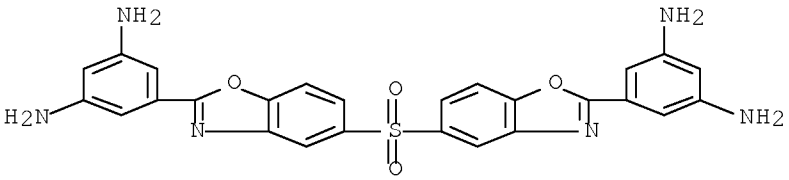


RN 773889-63-7 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, 5,5'-oxybis[1,3-isobenzofurandione], 4,4'-[1,3-phenylenebis(oxy)]bis[benzenamine] and 5,5'-(sulfonyldi-5,2-benzoxazolediyl)bis[1,3-benzenediamine] (9CI) (CA

INDEX NAME)

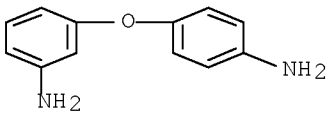
CM 1

CRN 518992-19-3
CMF C26 H20 N6 O4 S



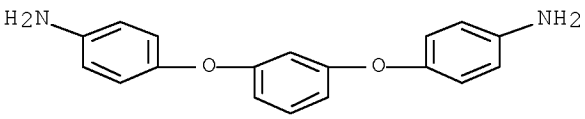
CM 2

CRN 2657-87-6
CMF C12 H12 N2 O



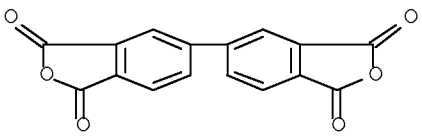
CM 3

CRN 2479-46-1
CMF C18 H16 N2 O2



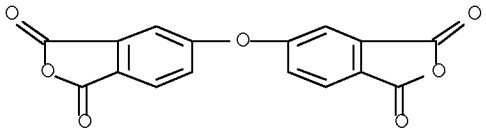
CM 4

CRN 2420-87-3
CMF C16 H6 O6



CM 5

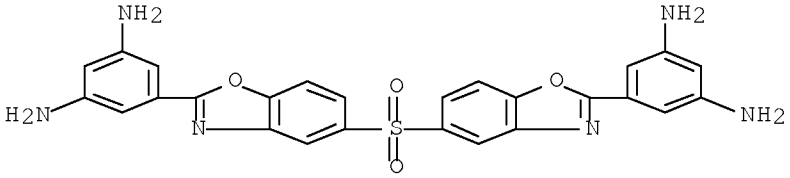
CRN 1823-59-2
CMF C16 H6 O7



RN 773889-64-8 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, α-[(3-aminopropyl)dimethylsilyl]-ω-[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 5,5'-oxybis[1,3-isobenzofurandione] and 5,5'-(sulfonyldi-5,2-benzoxazolediyl)bis[1,3-benzenediamine] (9CI) (CA INDEX NAME)

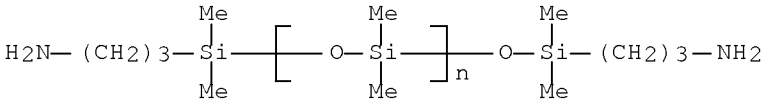
CM 1

CRN 518992-19-3
CMF C26 H20 N6 O4 S



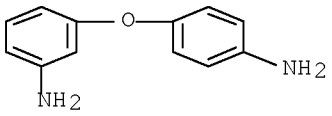
CM 2

CRN 97917-34-5
CMF (C2 H6 O Si)n C10 H28 N2 O Si2
CCI PMS



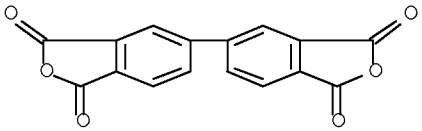
CM 3

CRN 2657-87-6
CMF C12 H12 N2 O



CM 4

CRN 2420-87-3
CMF C16 H6 O6



CM 5

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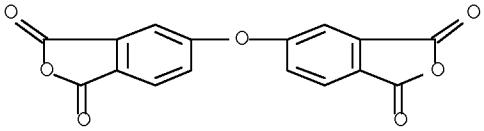
CMF C16 H6 O7



RN 773889-65-9 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, 9,9-bis(4-aminophenyl)-9H-fluorene-2,7-diamine, 5,5'-oxybis[1,3-isobenzofurandione] and 4,4'-[1,3-phenylenebis(oxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

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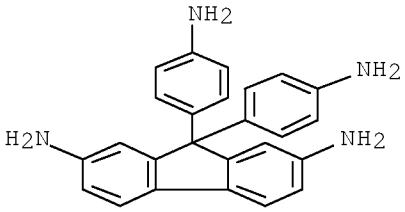
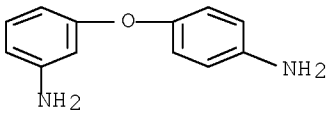


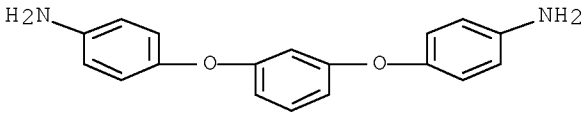
CM 2

CRN 2657-87-6
CMF C12 H12 N2 O



CM 3

CRN 2479-46-1
CMF C18 H16 N2 O2



CM 4

CRN 2420-87-3
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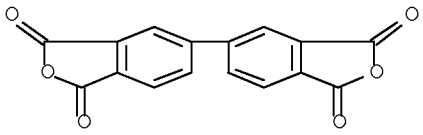
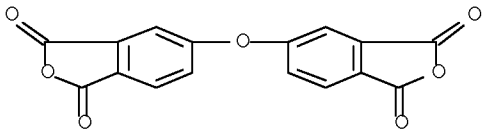


CM 5

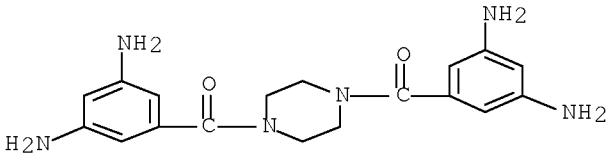
CRN 1823-59-2
CMF C16 H6 O7



RN 773889-66-0 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, 1,4-bis(3,5-diaminobenzoyl)piperazine, 4-methyl-1,3-benzenediamine and 3,3'-[sulfonylbis(4,1-phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



CM 2

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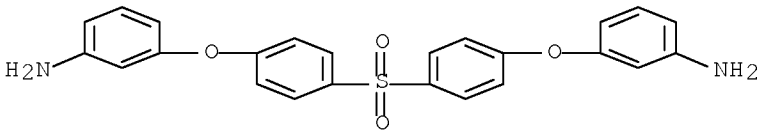

CM 3

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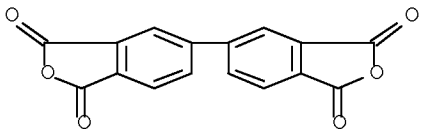

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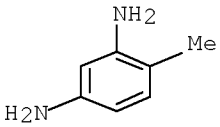
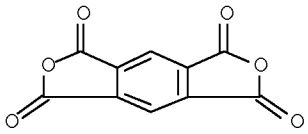


CM 5

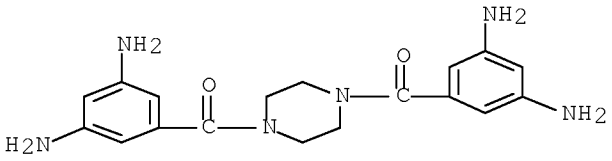
CRN 89-32-7
CMF C10 H2 O6



RN 773889-67-1 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 1,4-bis(3,5-diaminobenzoyl)piperazine, 5-methyl-1,3-benzenediamine, 5,5'-oxybis[1,3-isobenzofurandione] and 4,4'-[1,3-phenylenebis(oxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

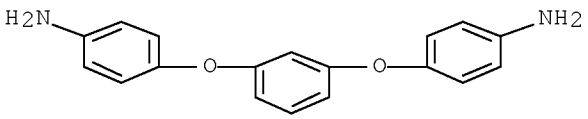
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



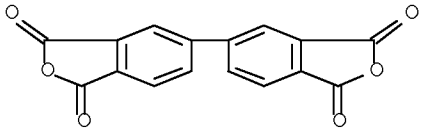
CM 2

CRN 2479-46-1
CMF C18 H16 N2 O2



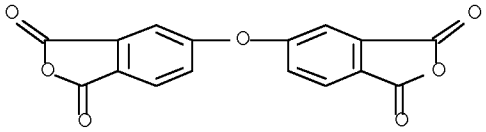
CM 3

CRN 2420-87-3
CMF C16 H6 O6



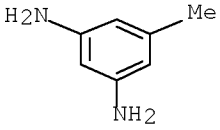
CM 4

CRN 1823-59-2
CMF C16 H6 O7



CM 5

CRN 108-71-4
CMF C7 H10 N2

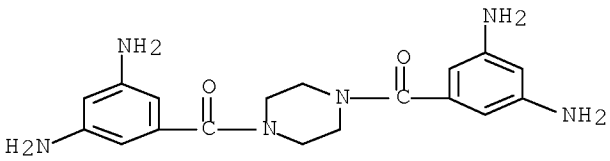


RN 773889-68-2 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 1,4-bis(3,5-diaminobenzoyl)piperazine,

4,4'-(9H-fluoren-9-ylidene)bis[benzenamine],
5,5'-oxybis[1,3-isobenzofurandione] and 4,4'-sulfonylbis[2-aminophenol]
(9CI) (CA INDEX NAME)

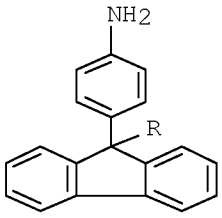
CM 1

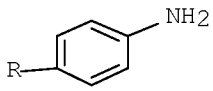
CRN 773889-55-7
CMF C18 H22 N6 O2



CM 2

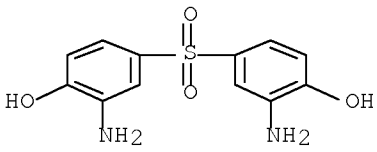
CRN 15499-84-0
CMF C25 H20 N2





CM 3

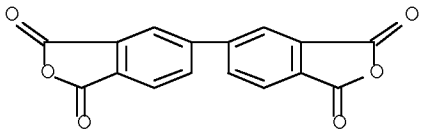
CRN 7545-50-8
CMF C12 H12 N2 O4 S



CM 4

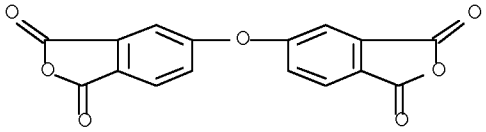
CRN 2420-87-3

CMF C16 H6 O6



CM 5

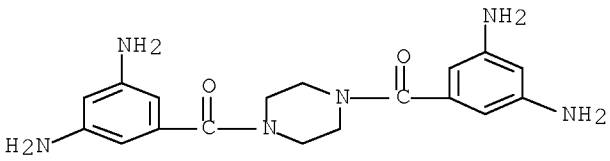
CRN 1823-59-2
CMF C16 H6 O7



RN 773889-69-3 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with
1,4-bis(3,5-diaminobenzoyl)piperazine,
4,4'-(9H-fluoren-9-ylidene)bis[benzenamine], ar-methyl-1,3-benzenediamine,
5,5'-oxybis[1,3-isobenzofurandione] and
4,4'-[1,3-phenylenebis(oxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

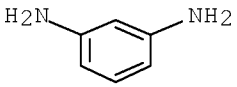
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



CM 2

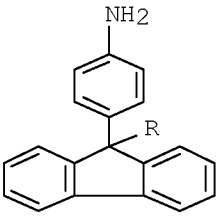
CRN 26764-44-3
CMF C7 H10 N2
CCI IDS

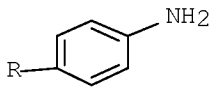


D1—Me

CM 3

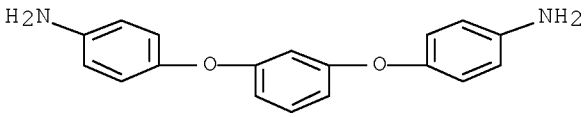
CRN 15499-84-0
CMF C25 H20 N2





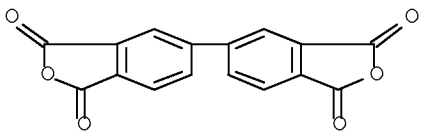
CM 4

CRN 2479-46-1
CMF C18 H16 N2 O2



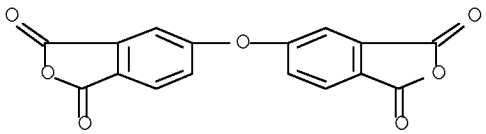
CM 5

CRN 2420-87-3
CMF C16 H6 O6



CM 6

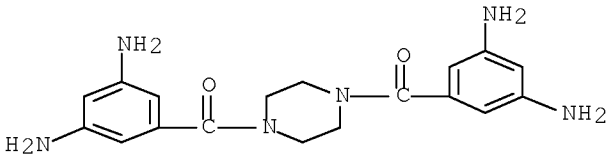
CRN 1823-59-2
CMF C16 H6 O7



RN 773889-70-6 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 1,4-bis(3,5-diaminobenzoyl)piperazine, ar-methyl-1,3-benzenediamine, 5,5'-oxybis[1,3-isobenzofurandione] and 4,4'-[1,3-phenylenebis(oxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

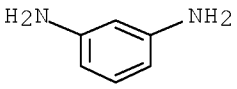
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



CM 2

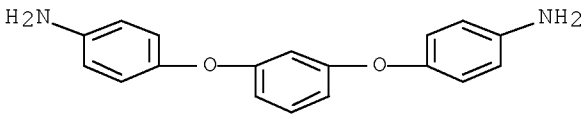
CRN 26764-44-3
CMF C7 H10 N2
CCI IDS



D1—Me

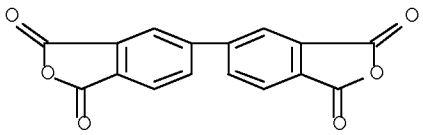
CM 3

CRN 2479-46-1
CMF C18 H16 N2 O2



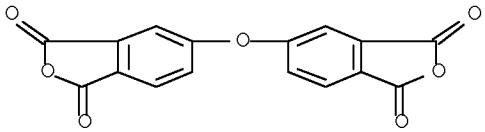
CM 4

CRN 2420-87-3
CMF C16 H6 O6



CM 5

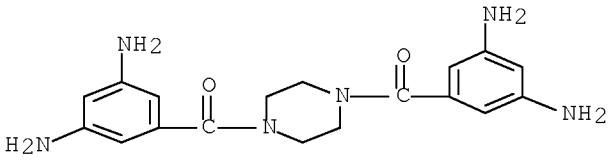
CRN 1823-59-2
CMF C16 H6 O7



RN 773889-71-7 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, 1,4-bis(3,5-diaminobenzoyl)piperazine, 5,5'-oxybis[1,3-isobenzofurandione] and 4,4'-[1,3-phenylenebis(oxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

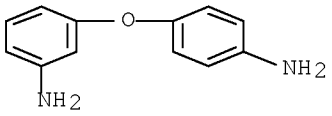
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



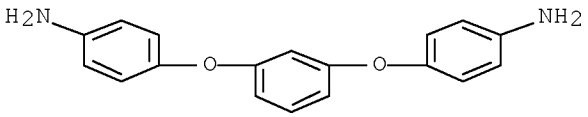
CM 2

CRN 2657-87-6
CMF C12 H12 N2 O



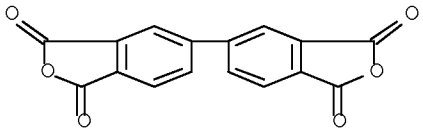
CM 3

CRN 2479-46-1
CMF C18 H16 N2 O2



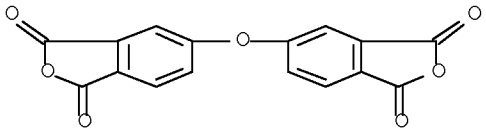
CM 4

CRN 2420-87-3
CMF C16 H6 O6



CM 5

CRN 1823-59-2
CMF C16 H6 O7

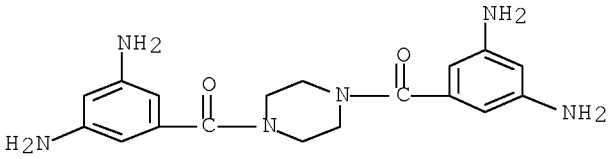


RN 773889-72-8 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with

3-(4-aminophenoxy)benzenamine, α-[(3-aminopropyl)dimethylsilyl]-ω-[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 1,4-bis(3,5-diaminobenzoyl)piperazine and 5,5'-oxybis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

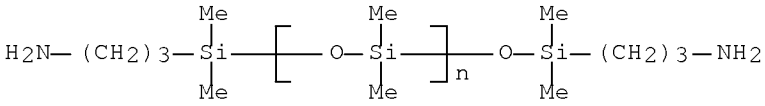
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



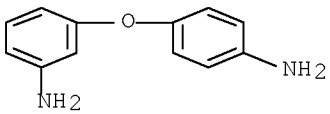
CM 2

CRN 97917-34-5
CMF (C2 H6 O Si)n C10 H28 N2 O Si2
CCI PMS



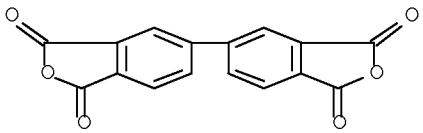
CM 3

CRN 2657-87-6
CMF C12 H12 N2 O



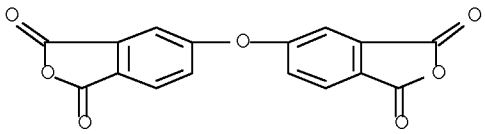
CM 4

CRN 2420-87-3
CMF C16 H6 O6



CM 5

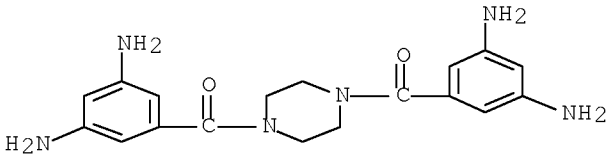
CRN 1823-59-2
CMF C16 H6 O7



RN 773889-73-9 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, 1,4-bis(3,5-diaminobenzoyl)piperazine, 5,5'-oxybis[1,3-isobenzofurandione] and 4,4'-[1,3-phenylenebis(oxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

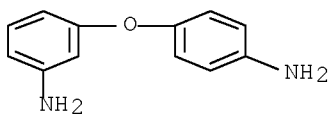
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



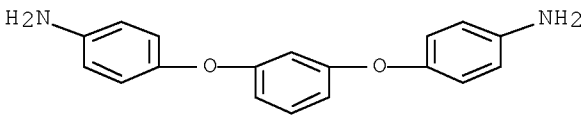
CM 2

CRN 2657-87-6
CMF C12 H12 N2 O



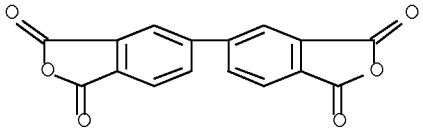
CM 3

CRN 2479-46-1
CMF C18 H16 N2 O2



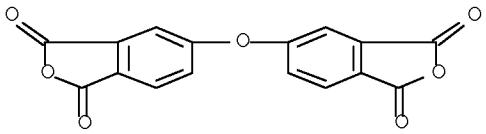
CM 4

CRN 2420-87-3
CMF C16 H6 O6



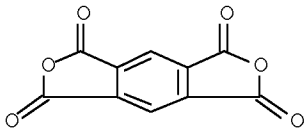
CM 5

CRN 1823-59-2
CMF C16 H6 O7



CM 6

CRN 89-32-7
CMF C10 H2 O6

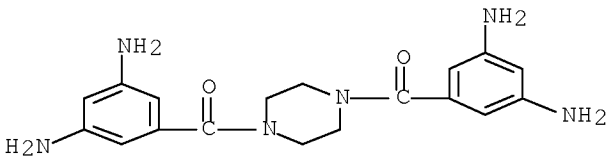


RN 773889-75-1 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with

1,4-bis(3,5-diaminobenzoyl)piperazine,
4,4'-(9H-fluoren-9-ylidene)bis[benzenamine], ar-methyl-1,3-benzenediamine,
5,5'-oxybis[1,3-isobenzofurandione] and 4,4'-sulfonylbis[2-aminophenol]
(9CI) (CA INDEX NAME)

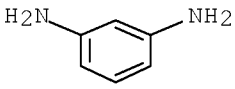
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



CM 2

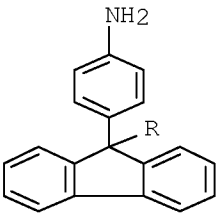
CRN 26764-44-3
CMF C7 H10 N2
CCI IDS

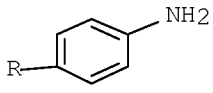


D1—Me

CM 3

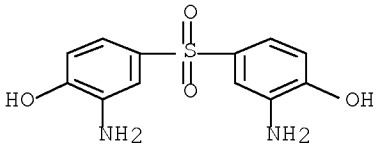
CRN 15499-84-0
CMF C25 H20 N2





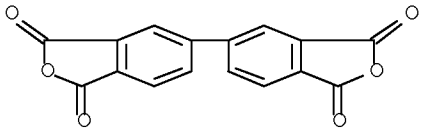
CM 4

CRN 7545-50-8
CMF C12 H12 N2 O4 S



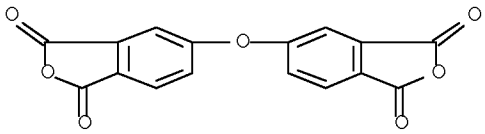
CM 5

CRN 2420-87-3
CMF C16 H6 O6



CM 6

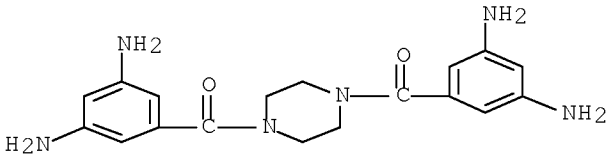
CRN 1823-59-2
CMF C16 H6 O7



RN 773889-76-2 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, α-[(3-aminopropyl)dimethylsilyl]-ω-[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 1,4-bis(3,5-diaminobenzoyl)piperazine, 4,4'-(9H-fluoren-9-ylidene)bis[benzenamine], ar-methyl-1,3-benzenediamine and 5,5'-oxybis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

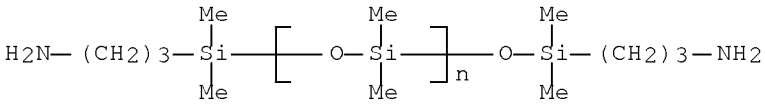
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



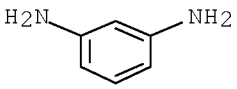
CM 2

CRN 97917-34-5
CMF (C2 H6 O Si)n C10 H28 N2 O Si2
CCI PMS



CM 3

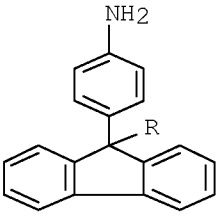
CRN 26764-44-3
CMF C7 H10 N2
CCI IDS

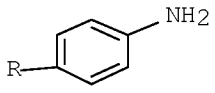


D1—Me

CM 4

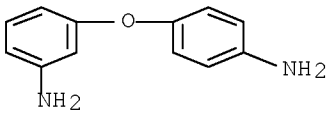
CRN 15499-84-0
CMF C25 H20 N2





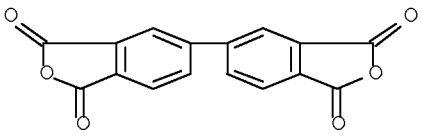
CM 5

CRN 2657-87-6
CMF C12 H12 N2 O



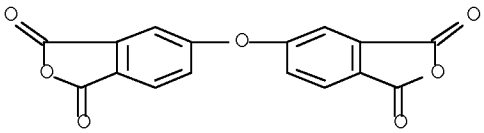
CM 6

CRN 2420-87-3
CMF C16 H6 O6



CM 7

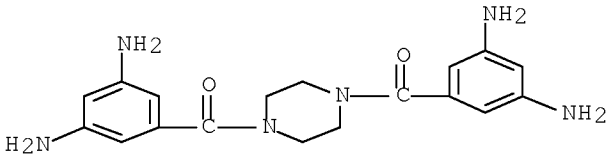
CRN 1823-59-2
CMF C16 H6 O7



RN 773889-77-3 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, 1,4-bis(3,5-diaminobenzoyl)piperazine, 4,4'-(9H-fluoren-9-ylidene)bis[benzenamine], ar-methyl-1,3-benzenediamine and 5,5'-oxybis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

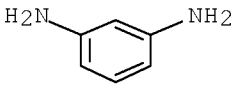
CM 1

CRN 773889-55-7
CMF C18 H22 N6 O2



CM 2

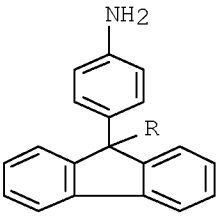
CRN 26764-44-3
CMF C7 H10 N2
CCI IDS

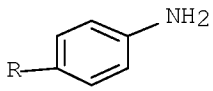


D1—Me

CM 3

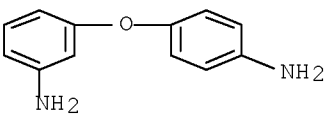
CRN 15499-84-0
CMF C25 H20 N2





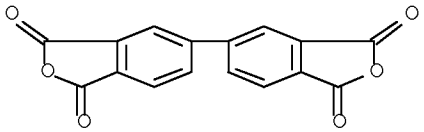
CM 4

CRN 2657-87-6
CMF C12 H12 N2 O



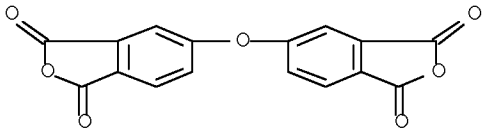
CM 5

CRN 2420-87-3
CMF C16 H6 O6



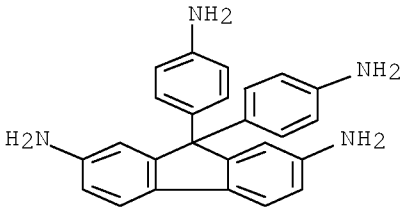
CM 6

CRN 1823-59-2
CMF C16 H6 O7

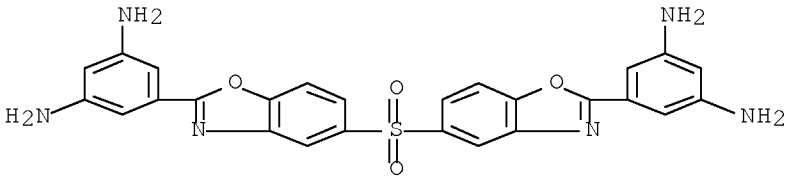


IT 176258-99-4P 518992-19-3P 773889-55-7P
773889-59-1P 773889-61-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; crosslinked polyimides with low dielec. constant, compns. containing them and method for their manufacture and use)

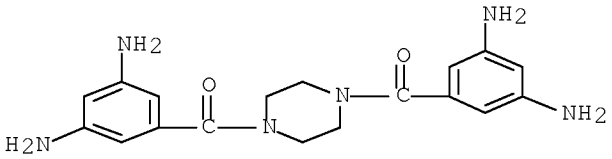
RN 176258-99-4 HCAPLUS
CN 9H-Fluorene-2,7-diamine, 9,9-bis(4-aminophenyl)- (CA INDEX NAME)



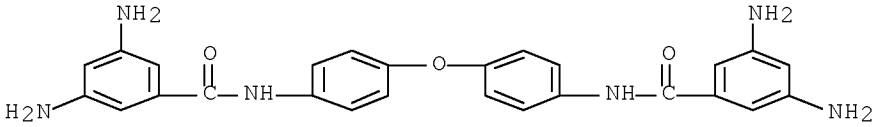
RN 518992-19-3 HCAPLUS
CN 1,3-Benzenediamine, 5,5'-(sulfonyldi-5,2-benzoxazolediyl)bis- (9CI) (CA INDEX NAME)



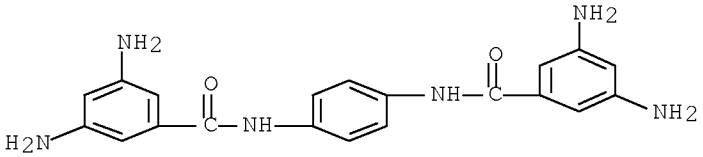
RN 773889-55-7 HCAPLUS
CN Methanone, 1,1'-(1,4-piperazinediyl)bis[1-(3,5-diaminophenyl)- (CA INDEX NAME)



RN 773889-59-1 HCAPLUS
CN Benzamide, N,N'-(oxydi-4,1-phenylene)bis[3,5-diamino- (9CI) (CA INDEX NAME)



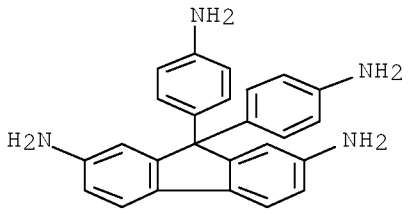
RN 773889-61-5 HCAPLUS
CN Benzamide, N,N'-1,4-phenylenebis[3,5-diamino- (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2003:421614 HCAPLUS Full-text
DN 139:181414
TI Synthesis and properties of star-like wholly aromatic polyester fibers
AU Yang, F.; Bai, Y.; Min, B. G.; Kumar, S.; Polk, M. B.
CS School of Textile and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA, 30332-0295, USA
SO Polymer (2003), 44(14), 3837-3846
CODEN: POLMAG; ISSN: 0032-3861

PB Elsevier Science Ltd.
DT Journal
LA English
AB Novel star-like wholly aromatic copolyesters having four arms based on a tetraamine star core, p- and m- hydroxybenzoic acids and 6-hydroxy-2-naphthoic acid have been successfully synthesized and spun into fibers for the investigation of the effect of the star-like structure on improving compressive properties of the fiber. The reactivity of the star core was demonstrated using a model compound with FTIR, 1H and 13C NMR spectroscopy. The 13C NMR spectrum of the star-like terpolymer having a molar ratio of 10:1 of the monomers to star core showed a characteristic peak at around δ62 ppm which corresponds to a tetra-substituted carbon and thereby demonstrates that the star core was really incorporated into the polymer. The star-like copolyester exhibited a clear stir opalescence and liquid crystalline morphol. in the temperature range of 150-280°. However, no transition was observed in the DSC thermogram except a clear Tg at 110°. The star-like terpolymer fiber, prepared from a polymer with a molar ratio of 500:1 for the monomers to imide core, was spun in the liquid crystalline state at 180°. Fiber structure and properties were studied.
IT 176258-99-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and properties of star-like wholly aromatic polyester fibers)
RN 176258-99-4 HCAPLUS
CN 9H-Fluorene-2,7-diamine, 9,9-bis(4-aminophenyl)- (CA INDEX NAME)

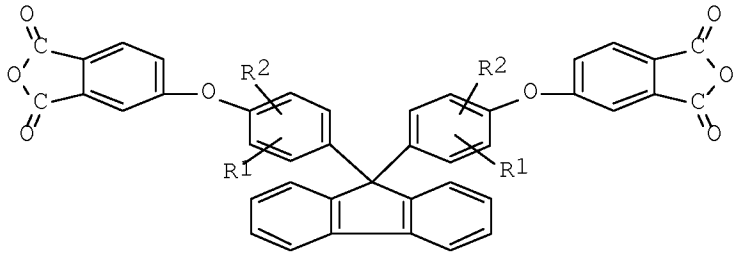


RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2001:481874 HCAPLUS Full-text
DN 135:62755
TI Polyamic acids and polyimides having fluorene structures, and coatings for manufacture of electric insulating films
IN Matsubara, Minoru; Okada, Takashi; Inoue, Yasutake; Takahashi, Masayuki; Rojanschi, Igor; Goto, Kohei
PA JSR Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001181390	A	20010703	JP 1999-371369	19991227 <--
PRAI JP 1999-371369		19991227 <--		

OS MARPAT 135:62755
GI



I

AB The polyamic acids are reaction products of ≥3-functional polyamines with fluorene structure-containing tetracarboxylic acids I (R1, R2 = H, C1-6 alkyl, C6-14 monocyclic or condensed polycyclic aromatic group) and/or 2,2',3,3'-biphenyltetracarboxylic dianhydride. The polyimides are dehydration ring-closure products of the above polyamic acids. The coatings, useful for for interlayer insulating films and elec. insulators in electronic devices, contain the polyamic acids and/or polyimides. Thus, polymerization of 15 mmol 9,9-bis[4-(4-aminophenoxy)phenyl]fluorene and 0.52 mmol 2,7-diamino-9,9-bis[4-(4-aminophenoxy)phenyl]fluorene with 18 mmol 2,2',3,3'-biphenyltetracarboxylic dianhydride at room temperature for 5 h to give a polyamic acid, which was then treated at room temperature for 1 h and then at 100° for 4 h to give a polyimide with dielec. constant 2.95, Tg 326°, solution viscosity (as 10% DMF solution) 53,600 cP, dielec. anisotropy ratio (to the plane and thickness directions) 1.01, and good solubility in N-methylpyrrolidone and cyclohexane.

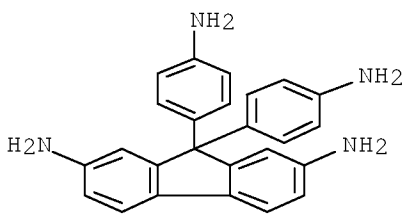
IT 346407-43-0P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamic acids and polyimides having fluorene structures for elec. insulating coatings)

RN 346407-43-0 HCAPLUS

CN [4,4'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 9,9-bis(4-aminophenyl)-9H-fluorene-2,7-diamine and 4,4'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 176258-99-4
CMF C25 H22 N4

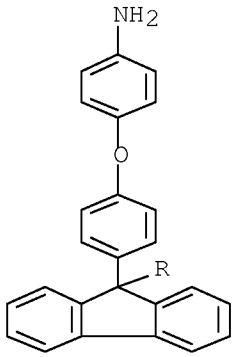


CM 2

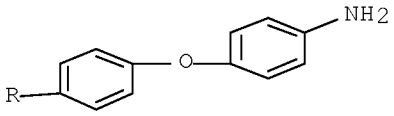
CRN 47823-88-1

CMF C37 H28 N2 O2

PAGE 1-A

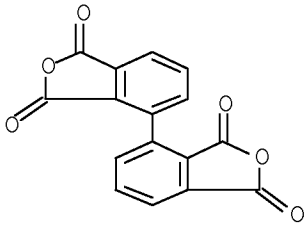


PAGE 2-A



CM 3

CRN 3711-04-4
CMF C16 H6 O6



L34 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2001:143713 HCAPLUS Full-text
DN 134:179710
TI Aromatic polymer compositions containing triazene crosslinking agents, their cured films, and manufacture of the films
IN Akiike, Toshiyuki; Takahashi, Masayuki; Goto, Kohei
PA JSR Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

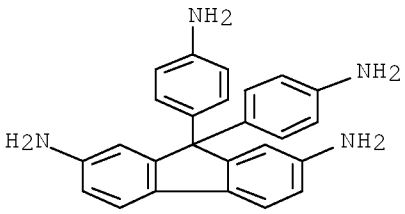
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001055513	A	20010227	JP 1999-230444	19990817 <--
PRAI	JP 1999-230444		19990817 <--		

AB The compns., useful for elec. insulator films or optical films, contain polymers containing aromatic rings in structural repeating units, triazenes having ≥3 N:NNRR' (R, R' = H, C1-20 alkyl, aryl), and organic solvents. Thus, a composition comprising 9,9-bis(4-methylsulfonyloxyphenyl)fluorene-bis(4-methylsulfonyloxyphenyl) ether copolymer 100, 2,7-(3,3-dimethyltriazenyl)-9,9-bis[4-(3,3- dimethyltriazenyl)phenyl]fluorene 15, and cyclohexanone 900 parts was applied to a Si wafer and cured at 400° to give a film showing dielec. constant 2.8, elastic modulus 5.2 GPa, and good heat and solvent resistance.

IT 176258-99-4, 2,7-Diamino-9,9-bis(4-aminophenyl)fluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of triazene crosslinking agents for aromatic elec. insulator or optical films)

RN 176258-99-4 HCAPLUS

CN 9H-Fluorene-2,7-diamine, 9,9-bis(4-aminophenyl)- (CA INDEX NAME)



L34 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN

AN 2001:143649 HCAPLUS Full-text

DN 134:179368

TI Tetrakistriazenyl fluorene compounds for polymer crosslinking agents

IN Akiike, Toshiyuki; Goto, Kohei

PA JSR Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF

DT Patent

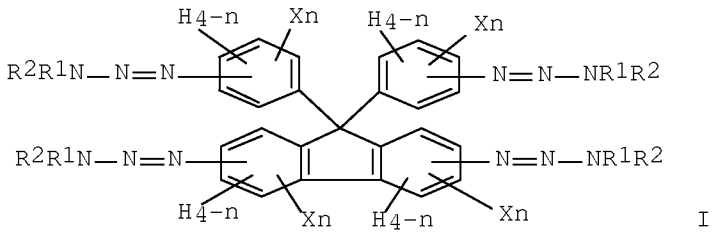
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001055369	A	20010227	JP 1999-230443	19990817 <--
PRAI	JP 1999-230443		19990817 <--		

OS MARPAT 134:179368

GI



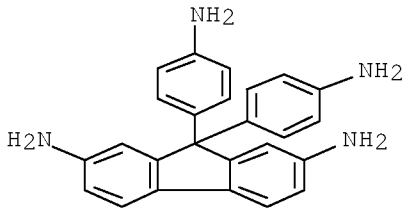
I

AB The triazenyl-containing fluorene compds. I (R1, R2 = H, C1-20-alkyl, aryl; X = C1-20-alkyl, aryl, alkenyl, C1-20-halogenated alkyl, halo; n = 0-4), useful for hardeners of elec. insulation films, are manufactured Thus, 2,7-diamino-9,9-bis(4-aminophenyl)fluorene was treated with HCl, NaNO2, then with dimethylamine HCl salt to give 2,7-bis(3,3-dimethyl-1-triazenyl)-9,9-bis[4-(3,3-dimethyl-1- triazenyl)phenyl]fluorene, which was mixed with 4,4'-oxydianiline-2,2',3,3'-biphenyltetracarboxylic dianhydride copolymer, applied on a Si wafer, and heated to give an insulation film showing dielec. constant 2.8, elastic modulus 5.2 GPa, and good heat and solvent resistance.

IT 176258-99-4, 2,7-Diamino-9,9-bis(4-aminophenyl)fluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(tetrakistriazenyl fluorene compds. for polymer crosslinking agents)

RN 176258-99-4 HCAPLUS

CN 9H-Fluorene-2,7-diamine, 9,9-bis(4-aminophenyl)- (CA INDEX NAME)



L34 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN

AN 1999:788218 HCAPLUS Full-text

DN 132:37035

TI Thermosetting resin compositions and their curing materials having excellent storage stability, transparency, adhesion, electric insulating property, and crack, heat, and moisture resistance

IN Matsubara, Minoru; Inoue, Yasutake; Kakuta, Mayumi; Goto, Kohei; Kurosawa, Takahiko; Shinoda, Tomotaka; Yamada, Kinji

PA JSR Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11343414	A	19991214	JP 1998-164447	19980529 <--

PRAI JP 1998-164447 19980529 <--

AB Title compns., useful for coatings, comprise hydrolyzed organosilanes and/or partially condensed hydrolyzable organosilanes and polyimides having ≥1

reactive group and/or their polyamic acids. Polyamides are manufactured from compds. containing ≥3 amino groups, carboxylic acid dianhydrides, and diamines. Thus, a coating containing a polyimide (prepared from 9,9-bis[4-(4-aminophenoxy)phenyl]fluorene 5.327, 2,2-bis(3,4-dicarboxyphenyl)-1,1,1,3,3,3-hexafluoropropane dianhydride 6.078, and 2,7-diamino-9,9-bis[4-(4-aminophenoxy)phenyl]fluorene 0.422 g) 1.57, di-isopropoxybis(ethylacetoacetate)titanium 2.63, and MeSiOMe3 6.36 g showed 5% weight-loss temperature >600° and dielec. constant 2.3.

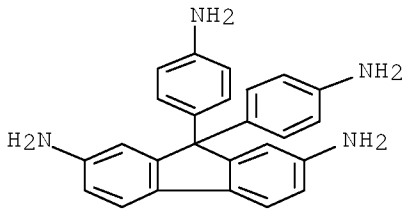
IT 252370-79-9P 252370-80-2P 252370-81-3P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(thermosetting resin compns. having good storage stability, transparency, adhesion, elec. insulating property, and crack, heat, and moisture resistance)

RN 252370-79-9 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 9,9-bis(4-aminophenyl)-9H-fluorene-2,7-diamine and 4,4'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

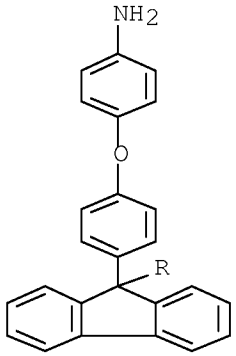
CRN 176258-99-4
CMF C25 H22 N4



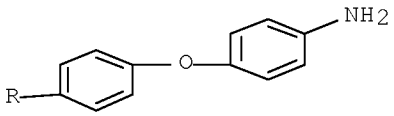
CM 2

CRN 47823-88-1
CMF C37 H28 N2 O2

PAGE 1-A



PAGE 2-A



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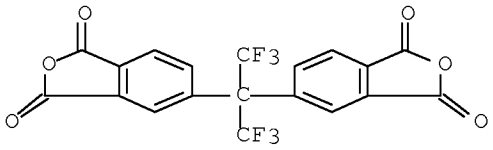
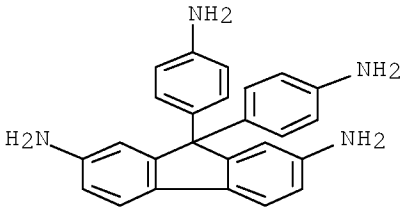
CRN 1107-00-2
CMF C19 H6 F6 O6



RN 252370-80-2 HCAPLUS
CN [4,4'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 9,9-bis(4-aminophenyl)-9H-fluorene-2,7-diamine and 4,4'-(9H-fluoren-9-ylidene)bis[benzenamine] (9CI) (CA INDEX NAME)

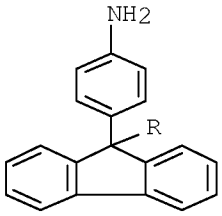
CM 1

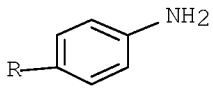
CRN 176258-99-4
CMF C25 H22 N4



CM 2

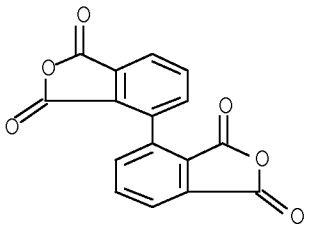
CRN 15499-84-0
CMF C25 H20 N2





CM 3

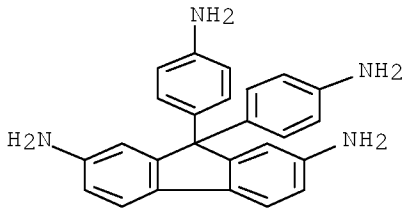
CRN 3711-04-4
CMF C16 H6 O6



RN 252370-81-3 HCAPLUS
CN Benzoic acid, 3,5-diamino-, polymer with [4,4'-biisobenzofuran]-1,1',3,3'-tetrone, 9,9-bis(4-aminophenyl)-9H-fluorene-2,7-diamine and 4,4'-(9H-fluoren-9-ylidene)bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

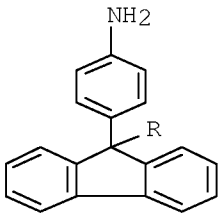
CRN 176258-99-4
CMF C25 H22 N4

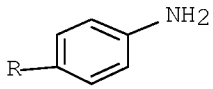


CM 2

CRN 15499-84-0

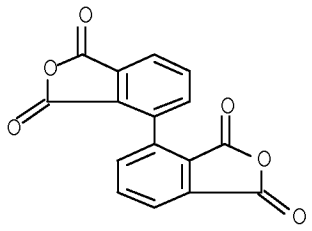
CMF C25 H20 N2





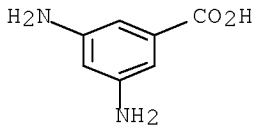
CM 3

CRN 3711-04-4
CMF C16 H6 O6



CM 4

CRN 535-87-5
CMF C7 H8 N2 O2

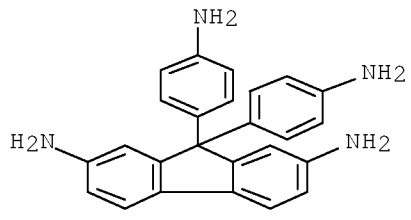


L34 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 1999:310082 HCAPLUS Full-text
DN 131:102606
TI Synthesis and characterization of high performance polymers containing fluorene central units
AU Harruna, Issifu I.; Petzold, Odessa N.; Bray, Melody L.
CS Department of Chemistry and the High Performance Polymers and Composites Center, Clark Atlanta University, Atlanta, GA, 30314, USA

SO Recent Research Developments in Polymer Science (1998), 2(Pt. 2), 183-201
CODEN: RRDPFX
PB Transworld Research Network
DT Journal
LA English

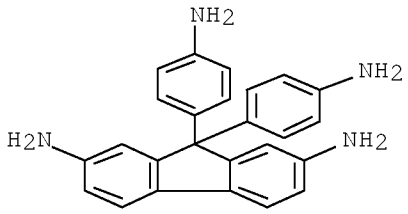
AB Radially oriented polyimide, polybenzoxazole (PBO), and polybenzothiazole (PBT) systems were prepared based on the geometrically favorable fluorene central unit. The three-dimensional central unit, 2,7-diamino-9,9-bis(4-aminophenyl)fluorene, was used to effectively control the orientation of linear polymer chains. The synthesis of the central fluorene unit involved the reaction of 2,7-dinitro-9-fluorenone with aniline in the presence of aniline hydrochloride followed by the reduction of the nitro functionalities. Polyimide systems exhibiting improved solubility in organic solvents and strong acids, transitions at lower temps. and good thermal properties were prepared by introducing hexafluoro groups (bis-4,4'-aminophenylhexafluoropropane and 4,4'-(hexafluoroisopropylidene)diphthalic anhydride), and by using a dianhydride (bicyclo[2.2.2]oct-7-ene-2,3,5,6-tetracarboxylic dianhydride) with reduced symmetry and decreased π-electron d. relative to benzene tetracarboxylic dianhydride. An improvement in the solubility of the thermally stable radially oriented polyimides was observed as a result of a decrease in linearity due to the radial structure of the three-dimensional polyimides. Polyimides containing the hexafluoroisopropyl group and the bicyclic ring (bicyclo[2.2.2]oct-7-ene-2,3,5,6-tetracarboxylic dianhydride) were prepared to increase solubility while maintaining thermal stability. The hexafluoroisopropylidene group was used to increase chain flexibility while the presence of fluoro groups led to improved solubility without compromising thermal stability. Bicyclo[2.2.2]oct-7-ene-2,3,5,6-tetracarboxylic dianhydride was used to enhance the processability of the polyimides by improving tractability. The radially oriented polymers are expected to be excellent candidates of improved compressive properties compared to the linear analogs. The polybenzoxazoles (PBOs and PBTs) are highly solvent resistant, and exhibit high thermal and thermooxidative stabilities. The C9 of the central units of the polymers showed 13C NMR chemical shifts in the δ 64.7-73.7 ppm region.

IT 176258-99-4P, 2,7-Diamino-9,9-bis(4-aminophenyl)fluorene
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(core; preparation of chemical resistant thermally stable radial polyimides and
polybenzoxazoles and polybenzothiazoles with aminophenyl-fluorene central units)
RN 176258-99-4 HCAPLUS
CN 9H-Fluorene-2,7-diamine, 9,9-bis(4-aminophenyl)- (CA INDEX NAME)



RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 1999:59121 HCAPLUS Full-text
DN 130:125670
TI Thermal and nuclear magnetic resonance characterization of linear and radial high-performance polyimides
AU Harruna, Issifu I.; Petzold, Odessa
CS Dep. Chem., High-Performance Polymers Composites Center, Clark Univ., Atlanta, GA, 30314, USA
SO International Journal of Polymer Analysis and Characterization (1998), 4(6), 565-578
CODEN: IPACEZ; ISSN: 1023-666X
PB Gordon & Breach Science Publishers
DT Journal
LA English
AB Radially oriented polyimides were prepared based on the geometrically favorable fluorene central unit by condensation with the C-terminus of the linear polyimides. Characterization of the polymers was achieved by Fourier-transform IR resonance (FTIR) spectroscopy, 1H NMR and 13C NMR spectroscopy, x-ray diffraction, solubility, and inherent viscosity. Thermal properties were investigated by thermogravimetric anal. (TGA), differential calorimetry scanning (DSC), and optical polarizing microscopy. The radially oriented polyimides were compared to their linear analogs. Thermogravimetric analyses indicate that linear and radially oriented polyimides were stable .ltorsim.400° in air and under Ar atmospheres.
IT 176258-99-4, 2,7-Diamino-9,9-bis(4-aminophenyl)fluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(radial core; in preparation of radial four-arm polyimides)
RN 176258-99-4 HCAPLUS
CN 9H-Fluorene-2,7-diamine, 9,9-bis(4-aminophenyl)- (CA INDEX NAME)



L34 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 1997:388732 HCAPLUS Full-text
DN 127:26374
OREF 127:4979a,4982a
TI Polyamic acid or polyimide liquid crystal-orienting agent
IN Nishikawa, Michinori; Kawamura, Shigeo; Toyoshima, Hitoshi; Matsuki, Yasuo
PA Japan Synthetic Rubber Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09090367	A	19970404	JP 1995-243041	19950921 <--
	JP 3203634	B2	20010827		
PRAI	JP 1995-243041		19950921 <--		

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The liquid crystal-orienting agent is a polyamic acid obtained by treating a tetracarboxylic dianhydride I with (A) a phenylenediamine II, (B) ≥1 aromatic diamine selected from III-VII, and (C) a steroid structure-having diamine H2NR14NH2 (R1 = tetravalent organic group; R2-6, R8-13 = alkyl, alkoxy, halo; a = 0-4; R7 = divalent organic group; b, c, h, i, j = 0-3; d, e, f, g, k = 0-4; R14 = steroid structure-having divalent organic group) or a polyamide obtained by dehydration cyclization of thus obtained polyamic acid. Liquid-crystal oriented films containing the orienting agent show uniform thickness, good crystal orientation, and long reliability.

IT 190196-08-8P

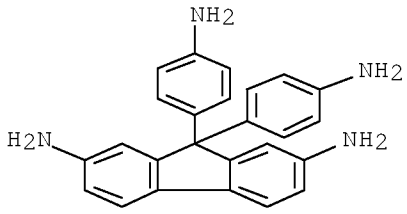
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamic acid or polyimide liquid crystal-orienting agent showing uniform thickness)

RN 190196-08-8 HCAPLUS

CN Cholest-5-en-3-ol (3β)-, 3,5-diaminobenzoate, polymer with 1,4-benzenediamine, 9,9-bis(4-aminophenyl)-9H-fluorene-2,7-diamine and hexahydrofuro[3',4':4,5]cyclopenta[1,2-c]pyran-1,3,4,6-tetrone (9CI) (CA INDEX NAME)

CM 1

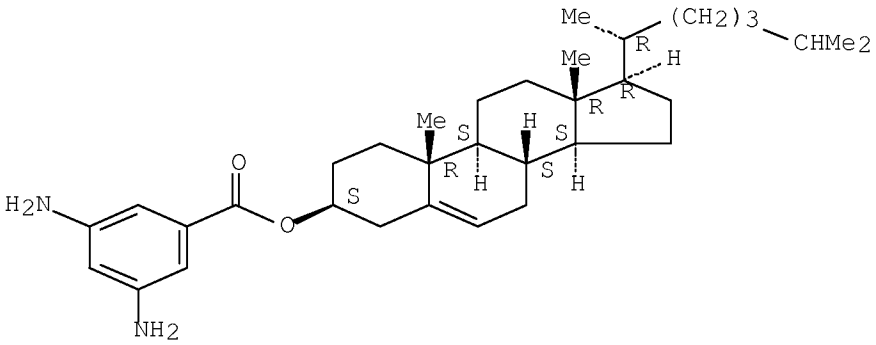
CRN 176258-99-4
CMF C25 H22 N4



CM 2

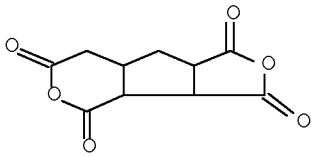
CRN 173027-19-5
CMF C34 H52 N2 O2

Absolute stereochemistry.



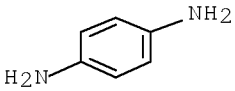
CM 3

CRN 127804-19-7
CMF C10 H8 O6



CM 4

CRN 106-50-3
CMF C6 H8 N2



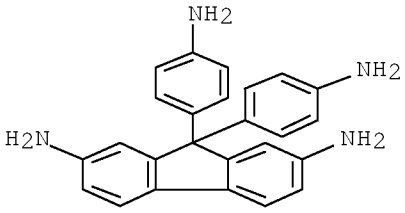
L34 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 1997:252345 HCAPLUS Full-text
DN 126:277826
OREF 126:53875a,53878a
TI Synthesis of three-dimensional polyimides based on the fluorene unit for compressive strength studies
AU Petzold, Odessa N.; Harruna, Issifu J.; Bota, Kofi B.; Dean, Derrick R.
CS Department of Chemistry and the High Performance Polymers and Composites Center, Clark Atlanta University, Atlanta, GA, 30314, USA
SO Polymeric Materials Science and Engineering (1997), 76, 179-180
CODEN: PMSEDG; ISSN: 0743-0515
PB American Chemical Society
DT Journal
LA English

AB The preparation of star-like polyimides by by condensing linear polyimides with 2,7-diamino-9,9-bis(4-aminophenyl)fluorene is reported. The properties of these 3-dimensional polyimides are discussed.

IT 176258-99-4DP, polyimides
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and properties of star-like polyimides)

RN 176258-99-4 HCAPLUS

CN 9H-Fluorene-2,7-diamine, 9,9-bis(4-aminophenyl)- (CA INDEX NAME)



L34 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN

AN 1996:242795 HCAPLUS Full-text

DN 124:316706

OREF 124:58733a,58736a

TI Convenient synthesis of 2,7-diamino-9,9-bis(4-aminophenyl)fluorene

AU Lian, Guohua; Polk, Malcolm B.

CS School Textile and Fiber Engineering, Georgia Inst. Technol., Atlanta, GA, 30332, USA

SO Synthetic Communications (1996), 26(10), 2031-6
CODEN: SYNCAV; ISSN: 0039-7911

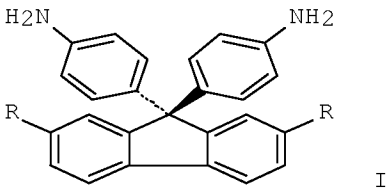
PB Dekker

DT Journal

LA English

OS CASREACT 124:316706

GI



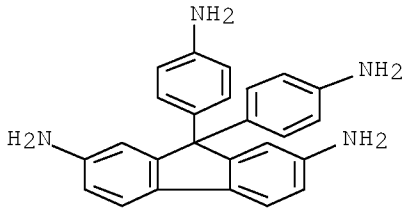
I

AB For the synthesis of the title compound (I, R = NH2), first I (R = NO2) was synthesized by the reaction of 2,7-dinitro-9-fluorenone with aniline and aniline hydrochloride. I (R = NH2) was obtained by the reduction of I (R = NO2) with hydrazine hydrate and 10% palladium on carbon.

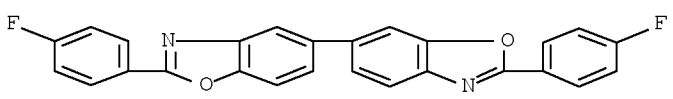
IT 176258-99-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of diaminobis(aminophenyl)fluorene)

RN 176258-99-4 HCAPLUS

CN 9H-Fluorene-2,7-diamine, 9,9-bis(4-aminophenyl)- (CA INDEX NAME)



L34 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 1995:817796 HCAPLUS Full-text
DN 123:229141
OREF 123:40953a,40956a
TI Aryl fluoride monomers in nucleophilic aromatic substitution polymerization: evaluation of monomer reactivity by 19F NMR spectroscopy
AU Carter, Kenneth R.
CS IBM Res. Div., Almaden Res. Cent., San Jose, CA, 95120-6099, USA
SO Macromolecules (1995), 28(19), 6462-70
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
AB The reactivity of a number of aryl fluoride monomers used in nucleophilic aromatic substitution polymerization was explored utilizing 19F NMR expts. NMR is a valuable tool for evaluating the electron-withdrawing effect of substituents present on Ph rings. When an electron-withdrawing group is present on a Ph ring, a partial pos. charge develops at the ortho and para positions through resonance interactions. While both 13C and 19F NMR were used to probe the electron d. at the actual site of nucleophilic reaction, 19F NMR chemical shifts proved to be the most sensitive probe, with a chemical shift range spanning 2500 Hz between the most activated monomer examined, difluorodiphenyl sulfone, and nonactivated fluorobenzene. The 19F shifts reflect the reactivity of the individual monomers examined Taft inductive and resonance parameters were calculated for a series of monomers from 19F data and used to identify activating forces for the monomers. NMR data were compared with calculated net atomic charges. Relative reactivity studies were also performed in order to verify the utility of this fast and convenient NMR probe of monomer reactivity.
IT 168914-99-6
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(evaluation of reactivity of aryl fluoride monomers in nucleophilic aromatic substitution polymerization)
RN 168914-99-6 HCAPLUS
CN 5,6'-Bibenzoxazole, 2,2'-bis(4-fluorophenyl)- (CA INDEX NAME)



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                E PI/CO
L3            38 S E37-E41/CO,PA,CS
                E E39+ALL
L4            32 S E2+RT OR E2,E3/PA,CS
                E PI R/PA
L5            36 S E4-E9/CO,PA,CS
                E PI R/CS
L6            38 S E4-E13/CO,PA,CS
L7             1 S L1 AND L2-L6
                SEL RN

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L10            1 S L8 AND C26H24N6O3 AND 1/NC
L11            1 S L8 AND C26H20N6O4S AND 1/NC
L12            1 S L8 AND C25H22N4 AND 1/NC
L13            1 S L8 AND C20H20N6O2 AND 1/NC
L14           21 S 46.150.18/RID AND NCOC2-C6/ES AND 6/NR AND 6/N AND 2/O AND 26
L15         6873 S 46.150.18/RID AND 333.471.13/RID AND 6/NR
L16          363 S L15 AND 6/N
L17           79 S L16 AND 2/O
L18           15 S L17 AND 26/C
L19            6 S 46.150.18/RID AND 333.471/RID AND 6/NR AND 6/N AND 2/O AND 26
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L22              STR
L23            0 S L22
L24            1 S L22 FUL

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L31            5 S L29 AND (PD<=20061016 OR PRD<=20061016 OR AD<=20060106) AND P
L32           13 S L28,L30,L31
L33            1 S L25-L27 NOT L32
L34           14 S L32,L33
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